

(43) International Publication Date
28 July 2005 (28.07.2005)

PCT

(10) International Publication Number
WO 2005/068363 A1(51) International Patent Classification⁷: C01B 33/187, C09C 1/30

(74) Agent: HOFSETH, Svein; Norsk Hydro ASA, N-0240 Oslo (NO).

(21) International Application Number:
PCT/NO2005/000017

(22) International Filing Date: 13 January 2005 (13.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20040167 14 January 2004 (14.01.2004) NO

(71) Applicant (for all designated States except US): COD TECHNOLOGIES A.S. [NO/NO]; Herøya Industripark, N-3907 Porsgrunn (NO).

(72) Inventors; and

(75) Inventors/Applicants (for US only): GUNNARSSON, Gudmundur [IS/IS]; Dalhus 77, IS-112 Reykjavik (IS). WALLEVIK, Oddmund [NO/NO]; Enggravhøgda 26, N-3711 Skien (NO). EKORNRØD, Lars, Øyvind [NO/NO]; Gregorius Dagssonsgt. 193, N-3713 Skien (NO). LANGSETH, Birger [NO/NO]; Gråsteinveien 31, N-3931 Porsgrunn (NO). ENGSETH, Per, Bjørn [NO/NO]; Øvaldveien 5, N-3944 Porsgrunn (NO).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

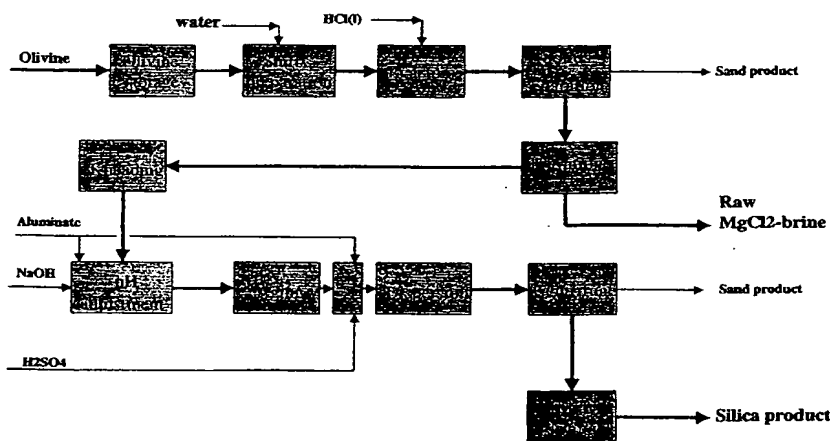
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: PROCESS FOR PRODUCTION OF PRECIPITATED SILICA FROM OLIVINE



(57) Abstract: Process for the production of precipitated silica from olivine including the following steps: - providing olivine particles with a particle size preferably below 1 mm in diameter, - preferably mixing olivine and water to form an olivine/water slurry, - mixing the olivine/water slurry with hydrochloric acid (HCl), preferably at a concentration at 18 wt% or above, and at a temperature preferably between 50 - 130 °C, and reacting for a period of time, preferably between 20 - 360 minutes, - removal of coarse mineral impurities (sand product), - separation of precipitated silica from mother solution, - mechanical treatment of the separated precipitated silica and optionally some water to obtain a slurry. - preparation of a low viscosity slurry by adding sodium aluminate or another suitable aluminate, preferably to 100 - 6000 p.p.m., and adjusting the pH, preferably to values between 4 - 9 - ageing at a temperature between 50 - 150 °C according to product requirements - dispersion of silica slurry - removal of fine mineral impurities (sand product) - drying of the silica.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.